AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

Listing of Claims:

1. (Currently Amended) A method ~~for receiving a signal, said method~~ comprising ~~the steps of~~:

receiving an RF signal, said received RF signal comprising a plurality of information channel signals each comprising different code division multiple access data spread using a different spreading code, wherein each of said plurality of information channel signals are transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies;

down-converting said received RF signal by a single down-converter to form an intermediate signal, wherein said single down-converter is arranged to receive said received RF signal and simultaneously multiply said RF signal by a plurality of oscillator signals when operating in a first mode and multiply said RF signal by a single oscillator signal when operating in a second mode, wherein said intermediate signal comprises down-converted versions formed by the single down-converter of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are generated from a plurality of frequencies, said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum;

processing the intermediate signal in a baseband stage to generate a baseband signal; and

decoding said baseband ~~intermediate~~ signal to extract data from said down-converted versions of each of said plurality of information channel signals.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Canceled).

6. (Previously Presented) The method of claim 1, wherein a frequency spacing between each

adjacent pair of said plurality of carrier frequencies and between each adjacent pair of said plurality of oscillator signals is substantially the same.

7. (Currently Amended) The method of claim 1, wherein said common frequency spectrum comprises a first common frequency spectrum, and ~~the step of decoding said intermediate signal comprises~~ the step of forming the ~~a~~ baseband signal comprises ~~by~~ down-converting said first common frequency spectrum to a second common frequency spectrum, said second common frequency spectrum being lower in frequency than said first common frequency spectrum.

8. (Original) The method of claim 7, wherein the step of forming said baseband signal further comprises down-converting the intermediate signal using a first oscillator signal to form a first baseband component signal and a second oscillator signal to form a second baseband component signal, the first and second oscillator signals each at a same frequency and a different phase.

9. (Original) The method of claim 8, wherein said first baseband component comprises a first folded signal and said second baseband component comprises a second folded signal, each folded signal having a frequency spectrum narrower than said first common frequency spectrum.

10. (Original) The method of claim 9 further comprising the steps of:

sampling said first baseband component to form a first digital representation;

sampling said second baseband component to form a second digital representation; and

combining said first and said second digital representations to form an unfolded signal, said unfolded signal having a frequency spectrum greater than the spectrum of the first folded signal.

11. (Original) The method of claim 1, wherein the step of receiving an RF signal comprises receiving an RF signal from a cellular radio base station.

12. (Currently Amended) The method of claim 1, further comprising the step of filtering said RF ~~intermediate~~ signal to attenuate at least one signal outside the common frequency spectrum before performing said step of down-converting.

13. (Currently Amended) A mobile radio telephone unit comprising:

an antenna configured to receive an RF signal, said received RF signal comprising a plurality of information channel signals, each comprising different code division multiple access data spread using a different spreading code, wherein each of said plurality of information

channel signals is transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies;

a single down-converter operatively coupled to the antenna and configured to down-convert said RF signal to form an intermediate signal, wherein said single down-converter is arranged to receive said received RF signal and simultaneously multiply said RF signal by a plurality of oscillator signals when operating in a first mode and multiply said RF signal by a single oscillator signal when operating in a second mode, wherein said intermediate signal comprises down-converted versions of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are generated from a plurality of frequencies, said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum;

a baseband stage, coupled to said single down-converter, said baseband stage for processing said intermediate signal to generate a baseband signal; and

a decoder operatively coupled to the single down-converter and configured to decode said baseband ~~intermediate~~ signal to extract data from said down-converted versions of each of said plurality of information channel signals.

14. (Cancelled)

15. (Previously Presented) The mobile radio telephone unit of claim 13, wherein said single down-converter is configured to down-convert each of said plurality of carrier frequencies by a plurality of oscillator signals having a lower frequency.

16. (Previously Presented) The mobile radio telephone unit of claim 13, wherein said single down-converter comprises an oscillator for generating the plurality of oscillator signals and the single oscillator signal, a frequency spacing between each adjacent pair of said plurality of carrier frequencies and between each adjacent pair of said plurality of oscillator signals being substantially the same.

17. (Cancelled)

18. (Cancelled)

19. (Cancelled)

20. (Currently Amended) A CDMA receiver for operating in at least a first mode and a second mode, said CDMA receiver comprising:

an initial RF stage, said initial RF stage for outputting a received RF signal, said received RF signal comprising a plurality of information channel signals each comprising different code division multiple access data spread using a different spreading code, wherein each of said plurality of information channel signals are transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies;

an oscillator, said oscillator for generating a plurality of oscillator signals, each at a different frequency, when the receiver operates in the first mode and generating a single oscillator signal when the receiver operates in the second mode;

a single down-converter coupled to said initial RF stage and said oscillator, said single down-converter for receiving said received RF signal and simultaneously multiplying said received RF signal by said plurality of oscillator signals when the receiver operates in the first mode, and multiplying said received RF signal by said single oscillator signal when the receiver operates in the second mode, to generate an intermediate signal, wherein said intermediate signal comprises down-converted versions of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are generated from a plurality of frequencies, said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum; ~~and~~

a baseband stage, coupled to said single down-converter, said baseband stage for processing said intermediate signal to generate a baseband signal.

21. (Currently Amended) A base station unit comprising:

a receiver to receive an RF signal, said RF signal comprising a plurality of information channel signals, each comprising different code division multiple access data spread using a different spreading code, wherein each of said plurality of information channel signals is transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies; ~~and~~

a single down-converter operatively coupled to said receiver and configured to down-convert said RF signal to form an intermediate signal, wherein said single down-converter is arranged to receive said received RF signal and simultaneously multiply said RF signal by a plurality of oscillator signals when operating in a first mode and multiply said RF signal by a

single oscillator signal when operating in a second mode, wherein said intermediate signal comprises down-converted versions of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are generated from a plurality of frequencies, said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum.

22. (Previously Presented) The base station unit of claim 21, wherein said single down-converter comprises an oscillator for generating an oscillator signal comprising a plurality of oscillator frequencies, a frequency spacing between each adjacent pair of said plurality of carrier frequencies and between each adjacent pair of said plurality of oscillator signals being substantially the same.

23. (Currently Amended) A chip apparatus comprising:

a receiver to receive an RF signal, said RF signal comprising a plurality of information channel signals, each comprising different code division multiple access data spread using a different spreading code, wherein each of said plurality of information channel signals is transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies; and

a single down-converter operatively coupled to said receiver and configured to down-convert said RF signal to form an intermediate signal, wherein said single down-converter is arranged to receive said received RF signal and simultaneously multiply said RF signal by a plurality of oscillator signals when operating in a first mode and multiply said RF signal by a single oscillator signal when operating in a second mode, wherein said intermediate signal comprises down-converted versions of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are generated from a plurality of frequencies, said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum.

24. (Previously Presented) The chip apparatus of claim 23, wherein said single down-converter comprises an oscillator for generating an oscillator signal comprising a plurality of oscillator frequencies, a frequency spacing between each adjacent pair of said plurality of carrier frequencies and between each adjacent pair of said plurality of oscillator signals being substantially the same.

25. (Currently Amended) An apparatus comprising:

~~a~~ means for receiving an RF signal, said RF signal comprising a plurality of information channel signals each comprising different code division multiple access data spread using a different spreading code, wherein each of said plurality of information channel signals are transmitted in one of a plurality of transmission bands, and each of said plurality of information channel signals is carried on one of a plurality of carrier frequencies; and

single means for down-converting said RF signal to form an intermediate signal, wherein said single means for down-converting is arranged to receive said received RF signal and simultaneously multiply said RF signal by a plurality of oscillator signals when operating in a first mode and multiply said RF signal by a single oscillator signal when operating in a second mode, wherein said intermediate signal comprises down-converted versions of each of said plurality of information channel signals, and said down-converted versions of each of said plurality of information channel signals are generated from a plurality of frequencies, said down-converted versions of each of said plurality of information channel signals are within a common frequency spectrum.

26. (Previously Presented) The apparatus of claim 25, wherein said single means for down-converting comprises an oscillator for generating an oscillator signal comprising a plurality of oscillator frequencies, a frequency spacing between each adjacent pair of said plurality of carrier frequencies and between each adjacent pair of said plurality of oscillator signals being substantially the same.

27. (Previously Presented) The mobile radio telephone unit of claim 13, wherein each down-converted version is processed by circuitry that processes all other down-converted versions from the down-converter to the decoder.

28. (Previously Presented) The method of claim 1, further comprising amplifying, filtering, and amplifying the received RF signal before down converting it.

29. (Previously Presented) The mobile radio telephone unit of claim 13, further comprising a first filter, a first amplifier, a second filter, and a second amplifier, wherein the received RF signal is successively filtered, amplified, filtered, and amplified before being down converted by the single down converter.

30. (Currently Amended) The mobile radio telephone unit of claim 29, further comprising a down

converter that converts the intermediate ~~down-converted received RF~~ signal to in phase (I) and quadrature (Q) component signals.

31. (Previously Presented) The mobile radio telephone unit of claim 13, further comprising an amplifier amplifying the received RF signal before it is down converted by the single down converter.

32. (Previously Presented) The mobile radio telephone unit of claim 13, further comprising the oscillator for generating the plurality of oscillator signals.

33. (Previously Presented) The mobile radio telephone unit of claim 32, wherein the oscillator comprises a synthesizer.

34. (Previously Presented) The mobile radio telephone unit of claim 13, wherein each one of the received RF signal follows a single path to the down-converter.

35. (Previously Presented) The method of claim 1, wherein the intermediate frequency accommodates multiple intermediate frequency bands.

36. (Previously Presented) The mobile radio telephone unit of claim 32, wherein the oscillator comprises a mixer.

37. (Previously Presented) The chip apparatus of claim 23, wherein the chip apparatus is comprised of at least one integrated circuit.

38. (Previously Presented) The chip apparatus of claim 23, wherein the chip apparatus is comprised of a single integrated circuit chip.

39. (Previously Presented) The chip apparatus of claim 38, further comprising a down converter that converts the down-converted received RF signal to in phase (I) and quadrature (Q) component signals.

40. (Previously Presented) The chip apparatus of claim 39, further comprising a first filter, a first amplifier, a second filter, and a second amplifier, wherein the received RF signal is successively filtered, amplified, filtered, and amplified in a single signal path before being down converted by the single down converter.

41. (New) The chip apparatus of claim 23, further comprising

a baseband stage, coupled to said single down-converter, said baseband stage for processing said intermediate signal to generate a baseband signal.

42. (New) The chip apparatus of claim 41, further comprising

a decoder operatively coupled to the baseband stage and configured to decode the baseband signal, the decoder comprising a first set of RAKE fingers for decoding in the first mode and a second set of RAKE fingers for decoding in the second mode.

43. (New) The method of claim 1, wherein decoding comprises using a first set of RAKE fingers in the first mode and using a second set of RAKE fingers in the second mode.

44. (New) The mobile radio telephone unit of claim 13, wherein the decoder comprises a first set of RAKE fingers for decoding in the first mode and a second set of RAKE fingers for decoding in the second mode.

45. (New) The CDMA receiver of claim 20, further comprising a decoding stage comprising a first set of RAKE fingers for decoding the processed intermediate signal in the first mode and a second set of RAKE fingers for decoding the processed intermediate signal in the second mode.

46. (New) The base station unit of claim 21, further comprising

a baseband stage, coupled to said single down-converter, said baseband stage for processing said intermediate signal; and

a decoder operatively coupled to the baseband stage and configured to decode said intermediate signal to extract data from said down-converted versions of each of said plurality of information channel signals, the decoder comprising a first set of RAKE fingers for decoding in the first mode and a second set of RAKE fingers for decoding in the second mode.

47. (New) The apparatus of claim 25, further comprising

means for baseband processing said intermediate signal; and

means for decoding operatively coupled to the means for baseband processing to generate a baseband signal, the means for decoding configured to decode said baseband signal to extract data from said down-converted versions of each of said plurality of information channel signals, the means for decoding comprising a first set of RAKE fingers for decoding in the first mode and a second set of RAKE fingers for decoding in the second mode.

48. (New) The method of claim 1, wherein said down-converted versions of each of said plurality of information channel signals have a band in common with a carrier frequency $f_{cj} - f_{LOj}$, for $j = 1$ to n, where n represents the number of information channel signals frequency, f_{cj} represents the carrier frequency for the j^{th} information channel signal, and f_{LOj} represents the local oscillator frequency for the j^{th} information channel.